

Serial No. 09/850,183

Reply to Office Action of January 14, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (currently amended) An availability model for a computer platform with at least one software component having different classes of failures, comprising:
an availability model for said platform defining expected failure rates and time to recover from the expected failures for components of the platform; and
a software availability model within said platform availability model, said software availability model including an aggregated failure rate for each of said classes of failures for said at least one software component and an aggregated repair time for each of said classes of failures for said at least one software component[.].
wherein the classes of failures for the software components comprise one or more of application failures that can be corrected internally with no loss of service or state, application failures that can be corrected by a restart with no loss of state, application failures that can be corrected by a restart with loss of state, and application failures that can be corrected by fail over.
2. (previously presented) The availability model of claim 1, wherein said software availability model includes parameters for said platform, wherein the platform parameters define platform problems causing failures and affecting recovery times related to the platform problems and wherein at least a portion of the platform parameters are used to determine the aggregated repair time.
3. (previously presented) The availability model of claim 1, further including a hardware component availability model within said platform availability model.
4. (previously presented) The availability model of claim 1, wherein said aggregated repair time includes a time to detect and identify an error associated with running the at least one software component on said platform.
5. (previously presented) The availability model of claim 1, wherein said platform is a node in a network.

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6. (original) A network model of a network having at least one node, comprising:
a node model for said at least one node;
node parameters for said node model, said node parameters including a
reboot time; and
a software availability model having an aggregated failure rate and an
aggregated repair time for each software component on said at least one node
wherein each software component has different error levels and said software
availability model represents each of said different error levels.
7. (original) The network model of claim 6, further comprising a hardware
component model for said at least one node.
8. (currently amended) A method for incorporating a software component into a
model of a network, comprising:
determining failure rates for warm recoverable errors and non-warm
recoverable errors of said software component, wherein the warm recoverable errors
comprise application failures that can be corrected by a restart without loss of state
of the application and the non-warm recoverable errors comprise application failures
that can be corrected by a restart with loss of state of the application;
determining recovery rates for the warm recoverable errors and the non-warm
recoverable errors of said software component;
generating warm recoverable error state parameters from said warm
recoverable error failure rates and said warm recoverable error recovery rates; and
generating non-warm recoverable error state parameters from said non-warm
recoverable error failure rates and said non-warm recoverable error recovery rates.
9. (currently amended) The method of claim 8, further comprising determining a
fraction of recovery failures for said warm recoverable ~~software~~ errors by dividing a
number of failures to recover from said warm recoverable ~~software~~ errors by a
number of attempted recoveries from said warm recoverable ~~software~~ errors,
wherein the number of failures is greater than or equal to zero and the number of
attempted recoveries is greater than or equal to one.

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10. (currently amended) The method of claim 9, wherein said first generating step includes said fraction of recovery failures for said warm recoverable software errors.
11. (currently amended) The method of claim 8, further comprising determining a fraction of recovery failures for said non-warm recoverable software errors by dividing a number of failures to recover from said non-warm recoverable software errors by a number of attempted recoveries from said non-warm recoverable software errors, wherein the number of failures to recover from said non-warm recoverable errors is greater than or equal to zero and the number of attempted recoveries from said non-warm recoverable errors is greater than or equal to one.
12. (currently amended) The method of claim 11, wherein said second generating step includes said fraction of recovery failures for said non-warm recoverable software errors.
13. (original) The method of claim 8, further comprising receiving node recovery parameters.
14. (original) The method of claim 13, wherein said node recovery parameters include node reboot parameters.
15. (original) The method of claim 8, further comprising receiving network recovery parameters, including network reboot parameters.
16. (currently amended) A method for modeling a software error within a network model, comprising:
determining a recoverable state for said error;
determining a failure rate for said error;
determining a recovery rate for said error; [[and]]
incorporating said failure rate and said recovery rate into said recoverable state[[.]] :
determining a fraction of recovery failures for said error by dividing a number of failures to recover from said error by a number of attempted recoveries from said error, wherein the number of failures is greater than or equal to zero and the number of attempted recoveries is greater than or equal to one; and
incorporating said fraction of recovery failures into said recoverable state.

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17. (canceled)

18. (currently amended) A computer program product comprising a computer useable medium having computer readable code embodied therein for incorporating a software component into a model of a network, the computer program product adapted when run on a computer to effect steps including:

determining failure rates for warm recoverable errors and non-warm recoverable errors of said software components, wherein the warm recoverable errors comprise application failures that can be corrected by a restart without loss of state of the application and the non-warm recoverable errors comprise application failures that can be corrected by a restart with loss of state of the application;

determining recovery rates for the warm recoverable errors and the non-warm recoverable errors of said software component;

generating warm recoverable error state parameters from said warm recoverable error failure rates and said warm recoverable error recovery rates; and

generating non-warm recoverable error state parameters from said non-warm recoverable error failure rates and said non-warm recoverable error recovery rates.

19. (currently amended) A computer program product comprising a computer useable medium having computer readable code embodied therein for modeling a software error within a network model, the computer program product adapted when run on a computer to effect steps including:

determining a recoverable state for said error;

determining a failure rate for said error;

determining a recovery rate for said error; and

incorporating said failure rate and said recovery rate into said recoverable

state[.];

determining a fraction of recovery failures for said error by dividing a number of failures to recover from said error by a number of attempted recoveries from said error, wherein the number of failures is greater than or equal to zero and the number of attempted recoveries is greater than or equal to one; and

incorporating said fraction of recovery failures into said recoverable state.